

**What is claimed is:**

1. A stereoscopic image display apparatus comprising:

5 a light source radiating light of a wavelength in a predetermined wavelength range;

a one-dimensional spatial modulator including one-dimensionally arrayed elements that are independently driven to generate an arbitrary phase distribution; and

10 a scan unit scanning the light to a predetermined direction, the light being from said light source, having entered into said one-dimensional spatial modulator and having been modulated therein.

15 2. The stereoscopic image display apparatus according to claim 1, wherein

said scan unit scans the light modulated by said one-dimensional spatial modulator in a direction perpendicular to an arraying direction of the elements of said one-dimensional spatial modulator.

20 3. The stereoscopic image display apparatus according to claim 1, wherein

said light source is provided with laser oscillators radiating laser beams having wavelengths in predetermined wavelength ranges severally corresponding to red, green and blue.

4. The stereoscopic image display apparatus according to claim 1, said apparatus further comprising:  
a diffuser panel diffusing modulated light scanned by

said scan unit.

5. The stereoscopic image display apparatus according to claim 1, wherein

5       said one-dimensional spatial modulator comprises a Grating Light Valve.

6. A stereoscopic image display apparatus comprising:  
a light source radiating light having a wavelength in  
10 a predetermined wavelength range;

a Grating Light Valve device that can independently drive each ribbon-like element therein to generate an arbitrary phase distribution;

15 a collimator lens making the light modulated by said Grating Light Valve device into parallel ray;

a scan unit scanning the parallel ray coming from said collimator lens;

a lens performing Fourier transformation on the scanned ray; and

20 a diffuser panel diffusing the ray Fourier transformed by said lens.

7. A stereoscopic image display apparatus comprising:  
means for radiating coherent light;

25 means for spatially modulating the coherent light in an one-dimensional direction to generate an arbitrary phase distribution; and

means for scanning the modulated light to a predetermined direction orthogonal to said one-dimensional

direction.

8. A stereoscopic image display method comprising:
- radiating coherent light;
  - 5       spatially modulating the coherent light in an  
one-dimensional direction to generate an arbitrary phase  
distribution; and
  - scanning the modulated light to a predetermined  
direction orthogonal to said one-dimensional direction.

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